



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

D

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|------------------------|
| 10/530,651 | 04/07/2005 | Kuniaki Utsumi | 2005_0512A | 9001 |
| 513 7590 05/07/2007 WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021 | | | EXAMINER YOUNG, JANELLE N | |
| | | | ART UNIT 2618 | PAPER NUMBER |
| | | | MAIL DATE 05/07/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/530,651 | Applicant(s) UTSUMI ET AL. | |
| | Examiner Janelle N. Young | Art Unit 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,14,15,25-41,46 and 47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-13,16-24,42-45 and 48-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed February 12, 2007 have been fully considered but they are not persuasive.

Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system comprising: a plurality of base station (BS); which reads on claimed sub-stations, for forming respective wireless communication areas individually in the local area, and performing wireless communication with the wireless communication terminals in the respective corresponding wireless communication areas (Page 1, Para 0001-0002); a plurality of access radio transceivers; which reads on claimed access relay apparatuses, for converting signals to be input from an outside of the local area to an inside of the local area to signals form for use in the local area, and converting signals to be output from the inside of the local area to the outside of the local area to signals form for use in the outside of the local area (Page 1, Para 0012; Page 2, Para 0027 Page 3, Para 0053 & 0063); and a control station; which reads on claimed main station, provided between the sub-stations and the access relay apparatuses, wherein the main station comprises: a managing section operable determine one of the plurality of access relay apparatuses to which a first one of wireless communication terminals is accessible converted in each of the access relay apparatuses; and a selection switch; which reads on claimed selecting section operable, to select and output one of the

signals to be input from the outside of the local area, whose form is converted in one of the plurality of access relay apparatuses determined by the managing section, and which is input to the local area, to the first wireless communication terminal via a corresponding to one of the sub-station (Abstract; Page 1, Para 0003 & 0010-0012; Page 2, Para 0022-0027; Page 7, Para 0132-0134; and Page 10, Para 0183-0190).

Response to Amendment

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 6, 9, 42, and 51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by second filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by second filed in the United States before the invention by the applicant

Art Unit: 2618

for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-2, 5-13, 16-24, 42-45, and 48-52 are rejected under 35 U.S.C. 102(e) as being anticipated by Aburakawa et al. (US Patent 2003/0007214).

As for claim 1, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communicate with a network outside the local area, the system comprising:

a plurality of base station (BS); which reads on claimed sub-stations, for forming respective wireless communication areas individually in the local area, and performing wireless communication with the wireless communication terminals in the respective corresponding wireless communication areas (Page 1, Para 0001-0002);

a plurality of access radio transceivers; which reads on claimed access relay apparatuses, for converting signals to be input from an outside of the local area to an inside of the local area to signals form for use in the local area, and converting signals to be output from the inside of the local area to the outside of the local area to signals form for use in the outside of the local area (Page 1, Para 0012; Page 2, Para 0027 Page 3, Para 0053 & 0063); and

a control station; which reads on claimed main station, provided between the sub-stations and the access relay apparatuses, wherein the main station comprises:

a managing section operable determine one of the plurality of access relay apparatuses to which a first one of wireless communication terminals is accessible converted in each of the access relay apparatuses; and a selection switch; which reads on claimed selecting section operable, to select and output one of the signals to be input from the outside of the local area, whose form is converted in one of the plurality of access relay apparatuses determined by the managing section, and which is input to the local area, to the first wireless communication terminal via a corresponding to one of the sub-station (Abstract; Page 1, Para 0003 & 0010-0012; Page 2, Para 0022-0027; Page 7, Para 0132-0134; and Page 10, Para 0183-0190).

As for claim 2, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein each of the plurality of access relay apparatuses uses a frequency different from one second, the selecting section further comprises:

a plurality of splitting sections corresponding to the respective access relay apparatuses (Page 5, Para 0053 and Page 6, Para 0104-0109);

a plurality of switching sections corresponding to the respective sub-stations, (Page 1, Para 0001 and Page 6, Para 0109) and;

a plurality of multiplexing sections corresponding to the respective switching sections (Page 1, Para 0001 and Page 7, Para 0127);

wherein each of the splitting sections splits and outputs a signal out to the plurality of signals to be input to the local area whose form has been converted in a corresponding one of the access relay apparatuses, to all of the switching sections (Page 3, Para 0063; Page 4, Para 0086-0088; and Page 5, Para 0096-0098);

wherein each of the switching sections is switched to determine which of the signals output from the splitting sections is output to the first wireless communication terminal the corresponding sub-station based on the communication routes managed by the managing section; and each of the multiplexing sections frequency-multiplexes signals output from the corresponding switching section to create a multiplexed signal to be input to the local area and outputs the multiplexed signal to the corresponding sub-station (Pages 4-5, Para 0086-0089; Page 5, Para 0097-0098; Page 6, Para 0105-0107; and Page 9, Para 0175-0177).

As for claim 5, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, further comprising a network switch provided between the access relay apparatuses and the network outside the local area, wherein

the network switch is operable to manage a state of connection between each of the access relay apparatuses and the wireless communication terminals present in the local area, to specify the wireless communication terminals present in the local area with reference to signals input to the network switch, and based

on the connection state, to output the signal input to the network switch to the access relay apparatuses connected to the first wireless communication terminals (Page 1, Para 0012- 0018; Page 2, Para 0019-0021 & 0027; and Page 3, Para 0057-0058).

As for claim 6, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system:

wherein the first wireless communication terminals present in the local area transmits signals to be transmitted to second wireless communication terminals present in the local area, to the sub-station of the communication area to which the first wireless communication terminals belongs,

wherein the signal to be transmitted to the second wireless communication terminals is input via the sub-station of the communication area to which the first wireless communication terminal belongs and the main station to the access relay apparatuses, is converted to signals for use in the outside of the local area in the access relay apparatuses connected to the first wireless terminal, and is output to the network switch; and wherein the network switch specifies the second wireless communication terminals present in the local area with reference to the signal whose form has been converted in the access relay apparatuses, and based on the connection state, outputs the signal input to the network switch from the access relay apparatus to the access relay apparatuses connected to the second wireless communication terminals (Abstract; Page 2, Para 0027;

Page 4, Para 0085-Page 5, Para 0092; Page 5, Para 0097 & 0100; and Page 6, Para 0105).

As for claim 7, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the sub-stations receives the signal to be output from the inside of the local area to the outside of the local area, the signal being transmitted from the wireless communication terminals, and output the received signals to the main station,

the main station outputs the signal to be output from the inside of the local area to the outside of the local area, the signal being output from the sub-station, to the access relay apparatuses, the access relay apparatuses converts the signal to be output from the inside of the local area to the outside of the local area, the signal being output from the main station, to the signal form for use in the outside of the local area, and outputs the converted signal to the outside of the local area (Page 2, Para 0027; Page 4, Para 0085-Page 5, Para 0092; and Page 6, Para 0105).

As for claim 8, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the main station further comprises:

a plurality of main station signal receiving means corresponding to the respective sub-stations, for receiving the signal to be output from the inside of the local area to the outside of the local area, the signal being output from each of

the sub-station; and a main station combining section operable to combine the signals to be output from the inside of the local area to the outside of the local area, the signals being received by the plurality of the main station signal receiving sections, and output the combined signal to the access relay apparatuses (Abstract; Page 2, Para 0024-0025; Page 3, Para 0051-0055; and Page 10, Para 0187-0188) .

As for claim 9, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the access relay apparatuses further comprises:

an intensity detecting section operable to detect an intensity of signals transmitted from the main station; and a request section operable to request the main station to switch one signal to be transmitted to the access relay apparatuses to second signal when the intensity of the signal transmitted from the main station, the intensity being detected by the intensity detecting section, is lower than a predetermined value (Abstract; Page 2, Para 0024; Page 4, Para 0075; Page 7, Para 0132; Page 8, Para 0146-0152; and Page 9, Para 0166-017),

wherein when the request from the request section is present and the main station receives signals having the same contents to be transmitted to the access relay apparatuses from two or more of the sub-stations, the main station outputs the signal the second signal to access relay apparatus, instead of the

first (Page 1, Para 0015 & 0019; Page 2, Para 0027; Page 3, Para 0055 & 0057; Page 4, Para 0065; Page 5, Para 0088-0091 & 0097; and Page 10, Para 0190);

wherein the first signal is transmitted to the main station from a first one of the plurality of sub-stations, and the second signal is transmitted to the main station from the second one of the plurality of sub-stations (Abstract; Page 2, Para 0024-0025; Page 3, Para 0051-0055; and Page 10, Para 0187-0188).

As for claim 10, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein each of the sub-stations further comprises a crosstalk canceling section operable to create signals having the same intensity as that of crosstalk occurring in the signal to be output from the inside of the local area to the outside of the local area due to an influence of the signal to be input to the local area, based on the signal to be input to the local area, and invert the signal having the intensity and adding the inverted signal to the crosstalk (Page 7, Para 0131-Page 8, Para 0152 and Page 9, Para 0165-0172).

As for claim 11, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the crosstalk canceling section comprises:

a first coupler section for splitting a portion of the signal to be input to the local area; and a second coupler section for combining the portion of the signal to be input to the local area which has been split by the first coupler section, with the signal to be output from the inside of the local area to the outside of the local

area (Abstract; Page 2, Para 0024-0025; Page 3, Para 0053-0054 & 0063; Page 4, Para 0081; Page 7, Para 0125, 0137, & 0141; Page 8, Para 0160-Page 9, Para 0161; and Page 10, Para 0188),

the first coupler section changes a phase of signals to be output to the second coupler section by 90° when splitting the signal to be input to the local area, and the second coupler section changes a phase of the signal to be input to the local area which has been output from the first coupler section, by 90° , when combining the two signals (Abstract; Page 1, Para 0009; Page 3, Para 0065-0068; and Page 4, Para 0081-0082).

As for claim 12, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein, in each of the sub-station, signals transmitting/receiving system; which is interpreted as an antenna, for outputting the signal to be output from the inside of the local area to the outside of the local area, the signal being output from the wireless communication terminals, to the main station, and signals transmitting/receiving system for transmitting the signal to be input to the local area, the signal being output from the main station, to the wireless communication terminals, wherein each of the signal transmitting/receiving systems are accommodated in separate housings (Page 1, Para 0003-0005; Page 2, Para 0027; Page 7, Para 0134; and Page 10, Para 0187).

As for claim 13, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network

outside the local area, the system, wherein the main station and each of the sub-stations are connected via an optical transmission line,

the main station further comprises an optical signal conversion section operable to convert the signal selected by the selecting section to an optical signal (Abstract; Page 1, Para 0001 & 0003-0004; Page 2, Para 0024 & 0027; and Page 3, Para 0053-0054),

each of the sub-stations converts the optical signal output from the main station to an electrical signal in a form for use in the local area, and transmits the electrical signal in the form of a wireless radio wave to the wireless communication terminals in the corresponding wireless communication area (Page 2, Para 0027; Page 5, Para 0089 & 0098; Page 6, Para 0107; Page 7, Para 0138-0139; and Page 8, Para 0142 & 0152).

As for claim 16, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the sub-station further comprises a sub-station frequency-converting section operable to convert a frequency of the converted electrical signal in the form for use in the local area from the intermediate frequency to a frequency which is when the access relay apparatuses has output the electrical signals,

the signal frequency-converted by the sub-station frequency-converting section is transmitted in the form of a wireless radio wave to the wireless communication terminals in the corresponding wireless communication area (Page 1, Para 0004-0005; Page 2, Para 0027; Page 3, Para 0053; Page 4, Para

0086-Page 5, Para 0089; Page 5, Para 0097-0100; and Page 6, Para 0105-0107),

the main station further comprises a main station frequency-converting section operable to convert a frequency of the signal to be input to the local area, a form of the signal having been converted by each of the access relay apparatuses, to an intermediate frequency (Page 4, Para 0084-Page 5, Para 0088; Page 5, Para 0096-0097; Page 5, 0105-Page 6, Para 0109; and Page 10, Para 0182-0183),

the selecting section selects the signal to be input to the local area whose form has been converted by each of the access relay apparatuses and which has been frequency-converted by the main station frequency-converting section (Page 5, Para 0088-0092 & 0097-0099; Page 6, Para 0104-0107; Page 9, Para 0175; and Page 10, Para 0186-0190)..

As for claim 17, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein each of the access relay apparatuses outputs the converted signal to be input to the local area as signals having a first intermediate frequency to the main station,

the main station further comprises a main station frequency-converting section operable to convert a frequency of the signal to be input to the local area, the signal being output from each of the access relay apparatuses, to a second intermediate frequency (Page 4, Para 0084-Page 5, Para 0088; Page 5, Para

0096-0097; Page 5, 0105-Page 6, Para 0109; and Page 10, Para 0182-0183),
and

the selecting section selects the signal to be input to the local area whose
having been converted by each of the access relay apparatuses and which has
been frequency-converted by the main station frequency-converting section
(Page 5, Para 0088-0092 & 0097-0099; Page 6, Para 0104-0107; Page 9, Para
0175; and Page 10, Para 0186-0190).

As for claim 18, Aburakawa et al. teaches a system for enabling a wireless
communication terminals present in a local area to communication with a network
outside the local area, the system, wherein the optical transmission lines connecting the
respective sub-stations and the main station have lengths substantially equal to one
second (Page 1, Para 0003-0004; Page 5, Para 0091-0092 & 0100; Page 6, Para 0109;
Page 7, Para 0127-0128; and Page 9, Para 0173-0179).

As for claim 19, Aburakawa et al. teaches a system for enabling a wireless
communication terminals present in a local area to communication with a network
outside the local area, the system, wherein

the main station and each of the sub-stations are connected via an optical
transmission line, the main station further comprises an optical signal conversion
section operable to convert the signal to be input to the local area, a form of the
signal having been converted by each of the access relay apparatuses, to an
optical signal (Page 1, Para 0003-0004; Page 2, Para 0024 & 0027; Page 3,
Para 0052-0054 & 0063; and Page 7, Para 0131-0136), and

the selecting section selects and outputs the optical signal converted by the optical signal conversion section to the corresponding sub-stations (Abstract; Page 1, Para 0001 & 0003-0004; Page 2, Para 0024 & 0027; Page 3, Para 0051-0054; Page 5, Para 0088-0092 & 0097-0099; Page 6, Para 0104-0107; and Page 10, Para 0184 & 0186).

As for claim 20, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the main station further comprises a plurality of signal receiving sections corresponding to the respective sub-stations, for receiving all signals which are output from the respective access relay apparatuses, the selecting section comprises:

a plurality of splitting sections corresponding to the respective sub-stations (Page 5, Para 0053 and Page 6, Para 0104-0109); and

a plurality of selecting/outputting sections provided between the respective sub-stations and the respective splitting sections, the splitting sections split all of the signals to be input to the local area which have been output from the respective access relay apparatuses and have been received by the respective signal receiving sections, into signals to be input to the local area for the respective access relay apparatuses, and each of the selecting/outputting sections outputs the signal to be input to the local area which is to be output to the corresponding sub-station, among the signals to be input to the local area which have been split by the corresponding splitting sections, to the wireless

communication terminal via the corresponding sub-station based on the communication routes managed by the managing section (Abstract; Page 5, Para 0088-0092 & 0097-0099; Page 6, Para 0104-0107; Page 9, Para 0175; and Page 10, Para 0186-0190).

As for claim 21, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the selecting section comprises:

a plurality of signal receiving sections corresponding to the respective sub-stations, and each of the signal receiving sections receives only the signal to be input to the local area which is to be transmitted to the corresponding sub-station, among the signals to be input the local area which have been output from the respective access relay apparatuses, based on the communication routes managed by the managing section (Page 8, Para 0147-0151 and Pages 8- 9, Para 0159-0166), and

a plurality of selecting/outputting sections provided between the respective sub-stations and the respective signal receiving sections, and the selecting/outputting sections transmit the signal to be input to the local area which has been received by the respective signal receiving sections, to the respective corresponding sub-station (Page 10, Para 0186-0190).

As for claim 22, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the wireless communication terminals

present in the local area comprises a communication start request section operable to request for starting communication via the desired access relay apparatuses to the sub-station in the communication area to which the wireless communication terminals belongs, the communication start request reaches via the sub-station to the main station, the main station comprises:

a communication request signal receiving section operable to receive the communication start request transmitted from the communication start request section; and a communication starting section operable to start communication via the access relay apparatuses desired by the sub-station based on the communication start request received by the communication request signal receiving section (Page 1, Para 0015; Page 2, Para 0027; Page 3, Para 0055; Page 4, Para 0065; and Page 5, Para 0088-0091 & 0097).

As for claim 23, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system, wherein the selecting section does not select or output the signal output by the access relay apparatuses to the sub-station when the sub-station has not transmitted signals to the access relay apparatuses for a predetermined period of time or more (Page 2, Para 0024; Page 4, Para 0075; Page 7, Para 0131; and Page 8, Para 0148-0151).

As for claim 24, Aburakawa et al. teaches a system for enabling a wireless communication terminals present in a local area to communication with a network outside the local area, the system comprising:

a plurality of sub-stations for forming respective wireless communication areas individually in the local area, and performing wireless communication with a wireless communication terminals in the respective corresponding wireless communication areas (Page 1, Para 0001-0002);

a plurality of access relay apparatuses for converting signals to be input from an outside of the local area to an inside of the local area to signals form for use in the local area, and converting signals to be output from the inside of the local area to the outside of the local area to signals form for use in the outside of the local area (Page 3, Para 0053 & 0063); and

a main station provided between the sub-stations and the access relay apparatuses, wherein the main station comprises:

a multiplexing section operable to frequency-multiplex the signal to be input to the local area, the signal to be output from the access relay apparatuses (Page 1, Para 0001; Pages 4-5, Para 0086-0089; Page 5, Para 0097-0098; Page 6, Para 0105-0107; Page 7, Para 0127; and Page 9, Para 0175-0177); and

a selecting section operable to select and output the signal to be input to the local area, which has been multiplexed by the multiplexing section, to all of the sub-stations (Page 1, Para 0003; Page 2, Para 0022-0027; Page 7, Para 0132-0134; and Page 10, Para 0183-0190).

Regarding claim 42, see explanation as set forth regarding claims 1 & 8 (system claim) because the claimed main station for sub-station for enabling a wireless

communication terminals present in a local area to communication with a network outside the local area would perform the system steps.

As for claim 43, Aburakawa et al. teaches a main station, provided between a plurality of sub-stations for forming respective wireless communication areas in a local area and performing wireless communication with a wireless communication terminals in the respective wireless communication areas, and a plurality of access relay apparatuses for outputting signals to be input from an outside of the local area to an inside of the local area, the main station comprising:

signals receiving section operable to receive the signal to be input to the local area, which has been received by the access relay apparatuses (Page 1, Para 0011-0013; Page 2, Para 0027; Page 3, Para 0053-0055 & 0063; Page 4, Para 0073; Page 5, Para 0088; and Page 6, Para 0107);

a multiplexing section operable to frequency-multiplex the signal to be input to the local area the signal being received by the signal receiving section; and a selecting section operable to select and output the signal to be input to the local area which has been multiplexed by the multiplexing section, to all of the sub-stations (Page 1, Para 0003; Page 2, Para 0022-0027; Page 7, Para 0132-0134; and Page 10, Para 0183-0190).

As for claim 44, Aburakawa et al. teaches a sub-station for use in a wireless communication system, wherein the sub-station forms a wireless communication area in a local area, and communicates with a wireless communication terminals present in the wireless communication area formed by the sub-station, in the wireless communication

system, signals to be input from an outside of the local area to an inside of the local area is converted to signals form for use in the local area, and is selected and output to the corresponding sub-station, the sub-station comprising:

signals receiving section operable to receive a corresponding signal among the selected and output signals, a radio wave signal transmitting section operable to transmit the signal received by the signal receiving section to the corresponding wireless communication terminals present in the wireless communication area in the form of a wireless radio wave (Page 1, Para 0011-0013; Page 2, Para 0027; Page 3, Para 0053-0055 & 0063; Page 4, Para 0073; Page 5, Para 0088; and Page 6, Para 0107).

As for claim 45, Aburakawa et al. teaches a sub-station for use in a wireless communication system, wherein the signal to be input from the outside of the local area to the inside of the local area is converted to signals in an optical signal form, and the optical signal is selected and output, the signal receiving section receives the signal converted to the optical signal form, the sub-station further comprises an electrical conversion section operable to convert the signal received by the signal receiving section to an electrical signal form, and the radio wave signal transmitting section transmits the signal converted by the electrical conversion section to the wireless communication terminals in the form of a wireless radio wave, the wireless communication terminals transmits signals to output from the inside of the local area to the outside of the local area in the form of a wireless radio wave, the sub-station further comprises:

a radio wave signal receiving section operable to receive the signal transmitted by the wireless communication terminals (Page 1, Para 0011; Page 3, Para 0053; Page 4, Para 0075-0077; and Page 5, Para 0087-0090);

signals transmitting section operable to transmit the signal received by the radio wave signal receiving section to an outside of the wireless communication area formed by the sub-station (Abstract; Page 1, Para 0001 & 0003-0004; Page 2, Para 0027; and Page 10, Para 0187-0188); and

an optical conversion section operable to convert the signal received by the radio wave signal receiving section to an optical signal form, the signal transmitting section transmits the optical signal converted by the optical conversion section to the outside of the wireless communication area formed by the sub-station (Abstract; Page 1, Para 0001 & 0003-0004; Page 2, Para 0024 & 0027; and Page 3, Para 0053-0054).

Regarding claim 48, see explanation as set forth regarding claim 10 (system claim) because the claimed a sub-station for use in a wireless communication system would perform the system steps.

Regarding claim 49, see explanation as set forth regarding claim 11 (system claim) because the claimed a sub-station for use in a wireless communication system would perform the system steps.

Regarding claim 50, see explanation as set forth regarding claim 12 (system claim) because the claimed a sub-station for use in a wireless communication system would perform the system steps.

Regarding claim 51, see explanation as set forth regarding claim 1 (system claim) because the claimed method for enabling a wireless communication terminals present in a local area to communication with a network outside the local area would perform the system steps.

Regarding claim 52, see explanation as set forth regarding claim 2 (system claim) because the claimed method for enabling a wireless communication terminals present in a local area to communication with a network outside the local area would perform the system steps.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle N. Young whose telephone number is (571) 272-2836. The examiner can normally be reached on Monday through Friday: 8:30 am through 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JNY
April 28 2007


NAY MAUNG
SUPERVISORY PATENT EXAMINER